ISR G2
Features and Roadmap

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March, 2011 – Partner Virtual Team

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Agenda

- Unified Computing System Express
- WAAS Solutions
- 3G Solutions & Roadmap
- Hardware & Software Roadmap

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UCSE
Unified Computing System Express

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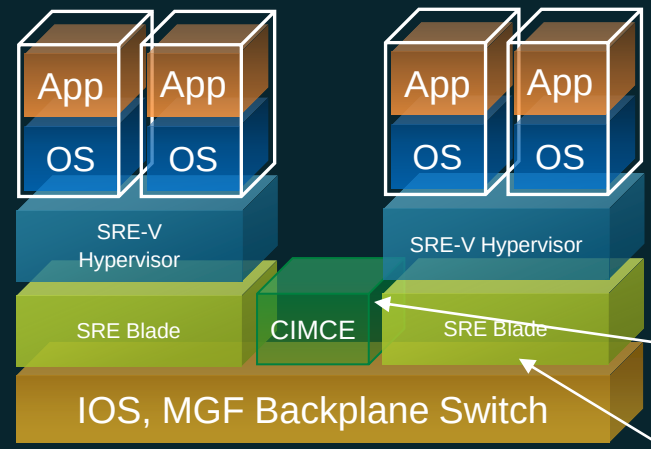
Cisco UCS Express Components
Simplifying Lean Branch Office Infrastructure



Platform for Edge Applications
- Microsoft Windows Server certified

Server Virtualization
- Cisco SRE Virtualization powered by VMware vSphere Hypervisor™ (ESXi)

Dedicated Blade Management
- Cisco Integrated Management Controller
- Consistent management for UCS family

Multipurpose x86 Blades
- Cisco Service Ready Engine modules
- House up to 4 server blades in ISR G2

Single-device Network Integration
- House all devices in ISR G2 chassis
- Multi-Gigabit Fabric backplane switch

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Cisco SRE Virtualization (SRE-V)
Powered by VMware vSphere Hypervisor (ESXi)

Key Functions

- Runs directly on SRE
- Acts as virtual hardware
- Runs multiple OS concurrently
- Controls resources allocation
- Captures and restores OS state
- Provides OS rehosting capability

vSphere Hypervisor™ (ESXi)

- Bare-metal hypervisor
- Version 4.1 and later
- Optimized for SRE blades
- Tailored for branch use cases
- vSphere essentials equivalent
- vCenter management option

vmware®

- Enterprise-class, production-class virtual server platform
- Most widely deployed, secure, production-proven hypervisor
- SRE-V solution jointly developed by VMware and Cisco

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Service Virtualization Framework

Virtualized Services

VMware vSphere Hypervisor 4.1

App (A) App (B) App (C)

SRE-V (vSphere Hypervisor)

Services Ready Engine (SM-SRE)

Management

Cisco and VMware Management Tools

- vCenter
- CIMCE
- CCP
- CiscoWorks LMS

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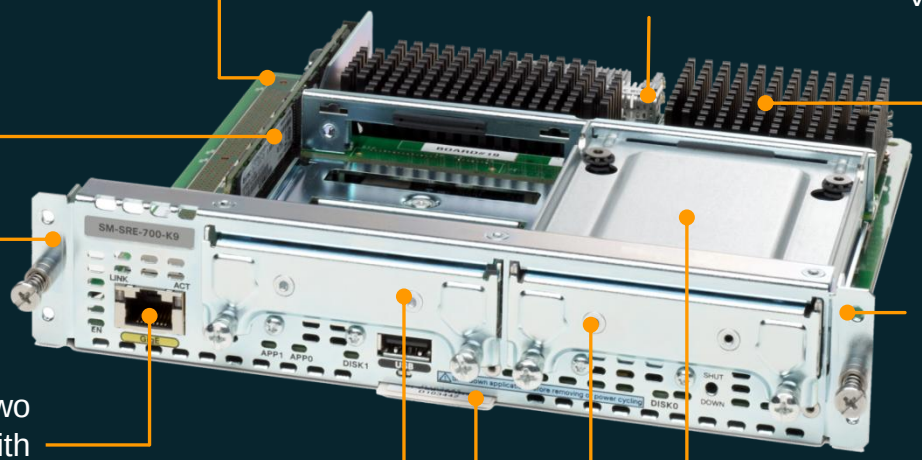
Cisco SRE x86 Blade Server

Compact, Multipurpose Blade Housed in ISR G2



Maximum 50W Power Draw
85% less than Server

iSCSI Initiator
Hardware Offload

Intel Single and Dual Core
64-bit CPU Options with
Virtualization Extensions

4 GB and 8 GB
DRAM Options

Remote and
Schedulable Power
Management

Single and Multi-blade
Provisioning and
Configuration Through
CIMC Express

One External and Two
Internal GE Ports with
TCP/IP Acceleration

One and Two 500GB 2.5”
HDD Options with Field-
Replacement Protection

USB 2.0 Port for External
Device Connectivity

Non-RAID and RAID 1
Configuration Options with Hot-
Swap Capability

Wire-Free, Plug-and-Play Modularity,
Low Shipping Weight (2.5lb/1.1kg)

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Hardware Comparison Matrix

Available Now

	SRE 700 SM	SRE 900 SM
Processor	1.86 GHz Intel Core 2 Duo (Single Core)	1.86 GHz Intel Core 2 Duo (Dual Core)
Maximum Memory	4 GB	4 - 8 GB*
Maximum Storage	500 GB SATA HDD	2 x 500 GB SATA HDDs w/ RAID 0/1
Ports	▪ 2 Internal GE ports ▪ 1 External GE port ▪ 1 External USB port	▪ 2 Internal GE ports ▪ 1 External GE port ▪ 1 External USB port
Security		Cavium Nitrox Security Co-processor

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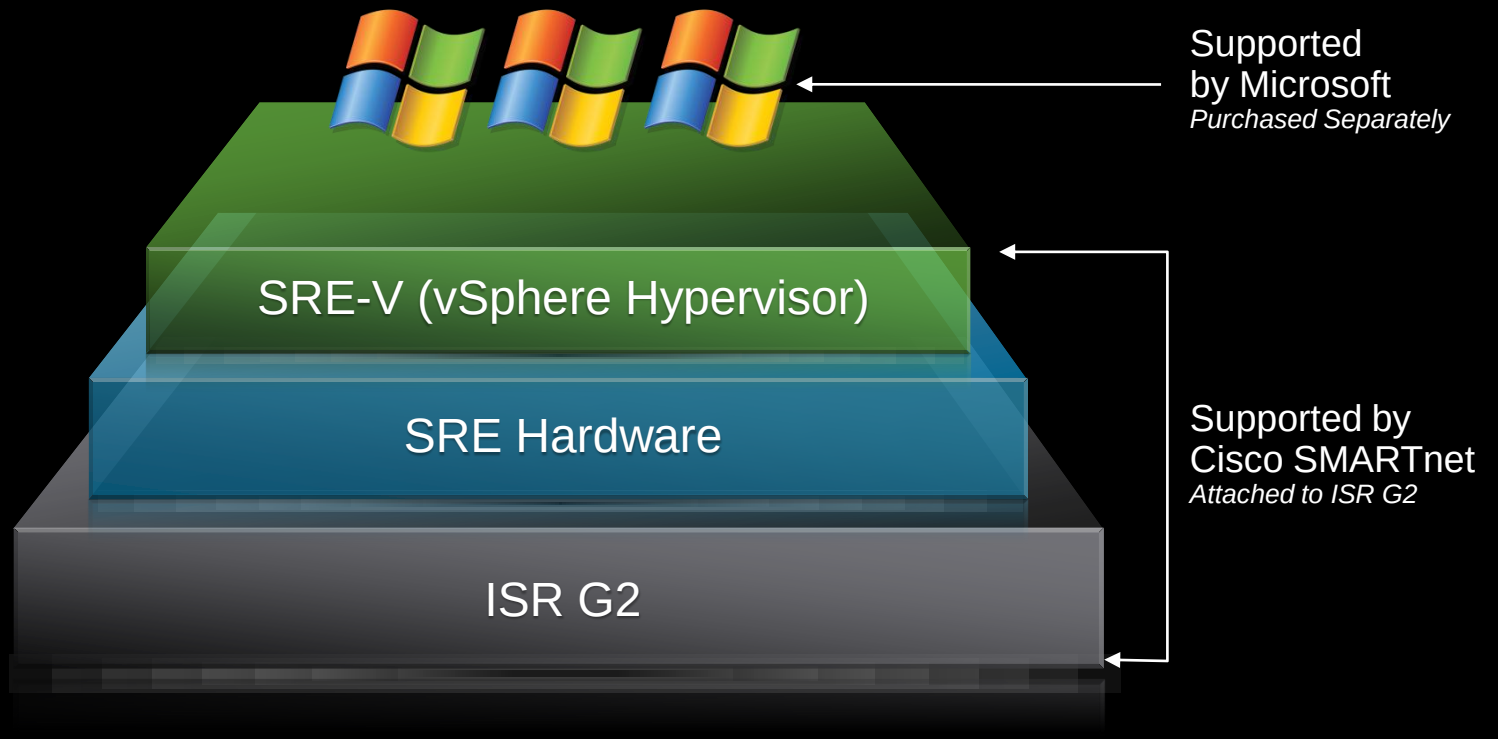
UCS Express Support Model

Hardware and Virtualization Support Provided by Cisco

- SRE hardware and SRE-V is supported under ISR G2 SMARTnet
- SRE-V support is provided by Cisco TAC only (not VMware)
- Microsoft Windows Server is supported by Microsoft



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SRE Services Roadmap

Q2CY11

WLC
Cisco Wireless LAN Controller

SRSV
Cisco Survivable Remote Site Voicemail

NAM
Cisco Network Analysis Module

Partner Services
IP Address Managemen
Fax over IP
Log Analysis and Management

Q3CY11

Partner Services
Satellite Link SCCP Optimization
Remote Network Management
Industrial Automation

CUCM
Cisco Unified Call Manager on UCS Express

Partner Services
Electronic Medical Records

VDS
Cisco Virtual Desktop Service

Q4CY11

ECDS
Cisco Electronic Content Delivery System

Mediator
Cisco Building Automation System

MediaSense
Cisco Voice Recording Solution

Partner Services
Network Surveillance

SRE 710/910
Faster HDD

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SRE Hardware Application Support Matrix

Service	SRE 300 ISM	SRE 700 SM	SRE 900 SM
Wide Area Application Services (WAAS)		Now	Now
Cisco Unity Express (CUE)	Now	Now	
Cisco Unified SIP Proxy (CUSP)			Now
Survivable Remote Site Voicemail (SRSV)		Now	Now
Cisco Unified Messaging Gateway (UMG)		Now	Now
VMware vSphere Hypervisor ESXi (UCSE)		Now	Now
Microsoft Windows Server 2008		Now	Now
Application Extension Platform (AXP)	Now	Now	Now
Video Surveillance		EoS	Eos
Sagem Interstar Fax over IP		Now	Now
Singlewire Paging over IP		Now	Now
NetScout Performance Monitoring		Now	Now
SecureLogix Voice Policy Firewall		Now	Now
Infoblox NIOS		Now	Now

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SRE Hardware Application Support Matrix

Service	SRE 300 ISM	SRE 700 SM	SRE 900 SM
Cisco Unified Call Manager (CUCM)		Q2CY2011	Q2CY2011
Cisco Survivable Remote Site Voicemail (SRSV)		Q2 CY2011	Q2 CY2011
Network Analysis Module (NAM)		May 2011	May 2011
Virtual Desktop Service			Q3CY2011
Wireless LAN Controller Module (WLCM)	Q3CY2011	Q3CY2011	Q3CY2011
Infoblox Core Network Services		Q2 CY2011	Q2 CY2011
BlueCat IP Address Management		Q3 CY2011	Q3 CY2011
OpenText Fax Server		Q3 CY2011	Q3 CY2011
LogLogic Log Management		Q3 CY2011	Q3 CY2011
Electronic Content Delivery System (ECDS)		Q4CY2011	Q4CY2011

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WAN Optimization Solution

WAAS on SRE
WAAS Express

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Key Messages of WAAS Express

- Excellent fit for small branch offices
- Can help with performance problems of 3G WAN
- Competitive: no other vendor can provide such integrated solution (if included in an RFP will make other vendors have to partner and include an extra box, being significantly more expensive).
- Pricing bundles make WAAS Express License as it was free (you pay only what you would pay for the hardware upgrades)

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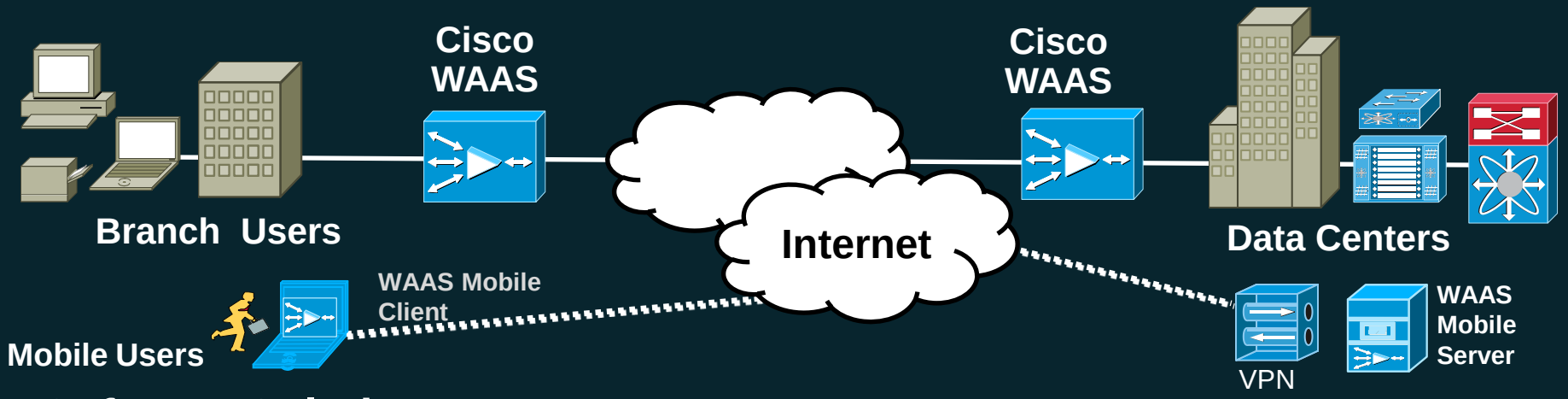
Cisco WAAS Solution Elements

Flexible Deployment Options



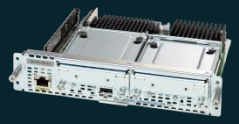
Software Solutions

- **WAAS Express:** IOS Integrated software based WAN Optimization
- WAAS for Cisco ISR G2 Services-Ready Engine
  - *WAAS On-demand* for IT agility
- WAAS Mobile Software
  - Optimization for mobile and micro-office users

Full appliance portfolio

- Virtual blade support for branches
- Scalable data center platforms
- Virtual WAAS for cloud deployment

WAAS Express


Services-Ready Engine

ISR G2 Platforms

Branch Appliance supporting Virtual Blades

Data Center Appliance

Dedicated Router Module

ISR Platforms

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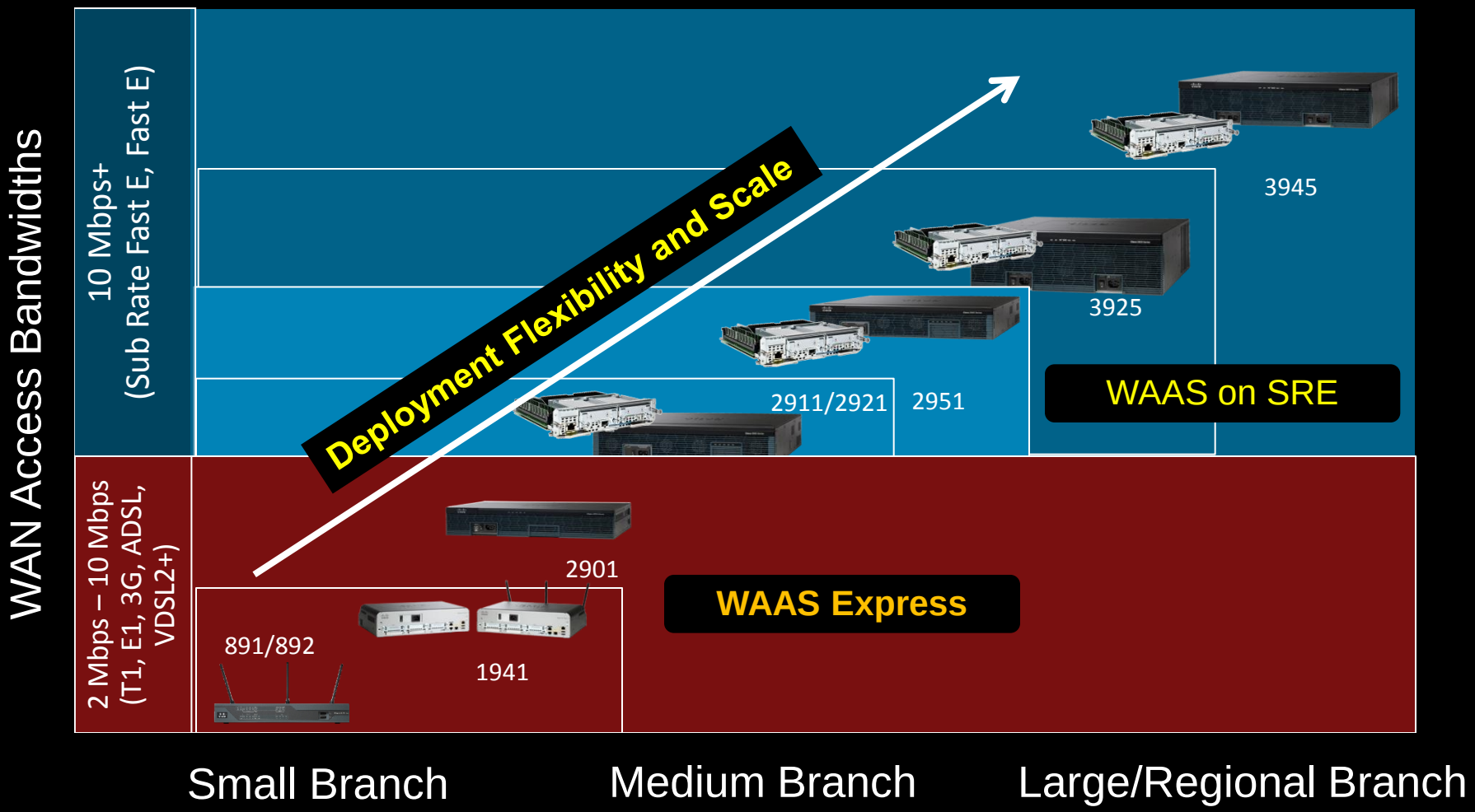
Router Integrated WAN Optimization
Product Positioning



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Key WAAS Express Features

- Optimization
  - Auto-Discovery
  - TFO
  - LZ Compression
  - DRE
- Management
  - Offers simplified CLI configuration
  - WAAS Central Manager for management and provisioning
- Network Integration
  - Compatible with WAAS appliances and vWAAS
  - Inline IOS feature - Interoperates with IOS Security and QoS
  - Support for mixed devices (WAAS appliances, vWAAS, WAAS on SRE, WAAS Express

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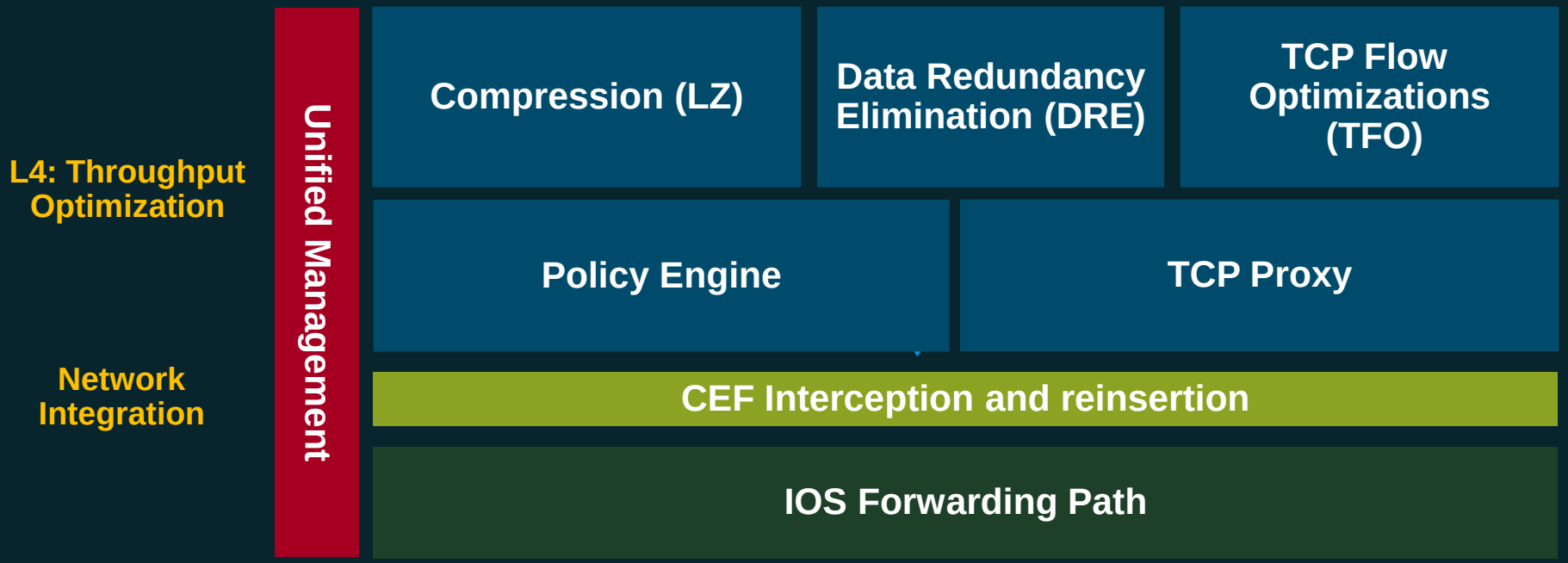
WAAS Express Software Architecture



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WAAS/WAAS Express Feature Comparison

Features	WAAS Express	Cisco WAAS hardware (version 4.2.1)
Auto-discovery of end nodes	Supported	Supported
TFO (Transport Optimization)	Supported	Supported
Compression	Supported	Supported
DRE (Data Redundancy Elimination)	- Memory based. - Non-persistent cache	- Disk based. -Persistent cache.
BIC-TCP	Supported	Supported
WAAS Central Manager	Cisco WAAS Version 4.3.1+	Supported
Application Optimizers	None supported	Supported
WAAS SW Compatibility	Cisco WAAS Version 4.2.1+	Cisco WAAS Backward compatible

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Cisco WAAS – Product Line Comparison

	WAAS Express (IOS)	WAAS Transport (Appliance)	WAAS Enterprise (Appliance)
Hardware	Router Integrated (DRAM required)	Dedicated SM Hardware and Appliances	Dedicated SM Hardware and Appliances
WAN Interfaces: T1, E1, 3G, Sub T1/E1, multi T1/E1 2 Mbps-10 Mpbs WAN links 10 Mbps and beyond	Yes No	Yes Yes	Yes Yes
Bandwidth Optimization	Yes	Yes	Yes
Application Acceleration	No	No	Yes

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Cisco WAAS Express Sizing Recommendations

Platform	Total DRAM Required	Maximum WAN bandwidth Supported	Recommended Number of Users	Max TCP ections
890	768 M	2 Mbps		
1941	2.5 G	4 Mbps		
2901	2.5 G			
2911				200
				200
			25	200
		Mbps	50	500
		10 Mbps	50	500

Be careful: WAAS Express have issues today in conjunction with IOS IPS

AS Express requires maximum DRAM installed as indicated

- **Typical Interfaces – 3G, T1, E1, Multi T1s, Multi E1s, and Serial**
- **Performance Testing Conducted with IOS FW, VPN (IPsec), NAT, and, QoS**

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Cisco WAAS Branch Platforms

	Hardware Configuration	Max Opt TCP Conn	Inline cards	Number of Virtual Blades	Drive (GB)	RAID	Memory (GB)	WAN Capacity (Mbps)
	NME-WAE-302	250	N/A	N/A	80	N/A	.5	4
	NME-WAE-502	400	N/A	N/A	120	N/A	1	4
	NME-WAE-522	800	N/A	N/A	160	N/A	2	8
	SM-SRE-700	500	N/A	N/A	500	N/A	4	20
	SM-SRE-900	1000	N/A	N/A	500	RAID-1	4	50
	WAVE-274	200	2-port	2	250	N/A	3	2
	WAVE-474	400	2-port	2	250	N/A	3	4
	WAVE-574-3GB	750	2-port/4-port	2	500	RAID-1	3	8
	WAVE-574-6GB	1,300	2-port/4-port	6	500	RAID-1	6	20
	WAE-674-4GB	2,000	4-port/8-port	2	600	RAID-5	4	45
	WAE-674-8GB	6,000	4-port/8-port	6	600	RAID-5	8	90

* Final recommendations requires a detailed sizing exercise that include application traffic mix, traffic characteristics, application load and other factors mentioned in the sizing guidelines.

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3G Solutions & Roadmap

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High Speed Packet Access (HSPA) HWIC

HWIC-3G-HSPA for Global HSPA Networks (850/1900/2100 MHz)

- HSUPA CAT 6 (5.76 Mbps)
- HSDPA CAT 8 (7.2 Mbps)
- IOS 15.0(1)M
- Based on MC8790

HWIC-3G-HSPA-G for Global HSPA Networks (850/900/2100 MHz)

- HSUPA CAT 6 (5.76 Mbps)
- HSDPA CAT 8 (7.2 Mbps)
- IOS 15.1(1)T
- Based on MC8792V

HWIC-3G-HSPA-A for AT&T Wireless Networks (850/1900 MHz)

- CAT 5 (2.0 Mbps)
- HSDPA CAT 8 (7.2 Mbps)

arket only)

AT&T US Only

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Just Launched – New EHWIC-3G

EHWIC-3G-HSPA-U (Quadband 3.5G)

HSPA: 850, 900, 1900, and 2100 MHz (forward link up to 7.2 Mbps; reverse link up to 5.76 Mbps)

Backward compatibility:

- HSDPA: 850, 900, 1900, and 2100 MHz (forward link up to 7.2 Mbps; reverse link up to 384 kbps)
- UMTS: 900, 1900, and 2100 MHz (forward link up to 2.0 Mbps; reverse link up to 384 kbps)
- EDGE: 850, 900, 1800, and 1900 MHz (forward link up to 236 kbps; reverse link up to 124 kbps)
- GPRS: 850, 900, 1800, and 1900 MHz (forward link up to 80 kbps; reverse link up to 42 kbps)
- Default FW K2.0.7.44

Features:

- Support all modular Cisco 1900, 2900, and 3900 Integrated Services Routers G2 (ISR G2) platforms
- New standalone GPS / SMS (send/receive) features support and 3G Wireless WAN MIB persistence
- Require IOS 15.1(3)T or later releases
- Ship with default 3G-ANTM1919D multiband swivel mount dipole antenna and 3G-AE010-R 10ft cable

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PCEX form-factor 3G card for 800 Series

PCEX-3G-HSPA-G for Global HSPA Networks (850/900/1900/2100 MHz)
- HSUPA CAT 6 (5.76 Mbps)
- HSDPA CAT 8 (7.2 Mbps)
- IOS 15.1(1)T1
- Antenna Adapter: 3G-ACC-TS9-TNC

PCEX-3G-HSPA-US for United States only (850/900/1900/2100 MHz)
- HSUPA CAT 5 (2.0 Mbps)
- HSDPA CAT 8 (7.2 Mbps)
- IOS 15.1(1)T1
- Antenna Adapter: 3G-ACC-TS9-TNC

PCEX-3G-HSPA-R6 for Global HSPA Networks (850/1900/2100 MHz)
- HSUPA CAT 6 (5.76 Mbps)
- HSDPA CAT 8 (7.2 Mbps)
- IOS 15.1(1)T1
- Antenna Adapter: 3G-ACC-SMKTS9-TNC

PCEX-3G-HSPA-A for United States only (850/1900/2100 MHz)
- HSUPA CAT 5 (2.0 Mbps)
- HSDPA CAT 8 (7.2 Mbps)
- IOS 15.1(1)T1
- Antenna Adapter: 3G-ACC-TS9-TNC
- 3G-ACC-SSMB-TNC

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Upcoming 3G offerings on fixed ISR

88x-3G

- Replace external ExpressCard 3G modem with internal mini-PCIe card modem
- Use the same modem as the HWIC reducing homologation process
- Add 2 SIM card slots
- Implement embedded antenna scheme
- Adds SMS, GPS, dynamic QOS to current 3G

C881G-U-K9	Secure Router with WAN FE and 3G HSPA with GPS (MC8795V)

Planned for July 2011

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ISR 819 Machine-to-Machine Router

Key Attributes for Remote ATM Machine:

- **98.6% Uptime (~ 5 days downtime per year)**
- **Monitor State of Health – Max 10 min Cycle Time to ALIVE**
- **Size, Fan less, Extended Temperature, Dust Protection**
- **5 Year Life Cycle**

Small Retail Branches in Emerging & Rural Markets

Outdoor ATM & Kiosks

Remote Telemetry

Outdoor Digital Signage

Enterprise Vehicles

3.5/3.7G Wireless WAN

Broadband Wireless ISR

SMALL FOOT PRINT

HARDENED OPTION

DUAL SIM SUPPORT

3G MIB & OUT OF BAND MNGMT

3.5G & 3.7G PHASE II (4G & 802.11)

SMS/GPS SUPPORT

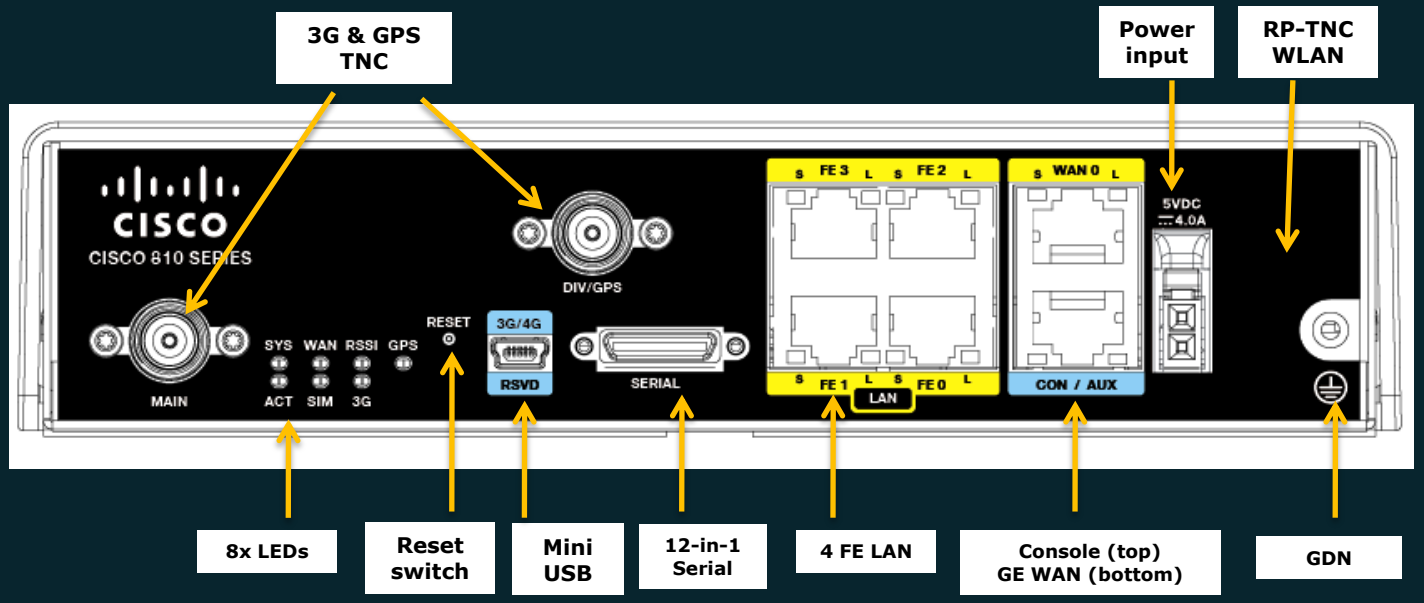
OTA FW UPGRADE

ASYNC SERIAL & FE LAN PORTS

Introducing the Cisco 819 Series
Broadband Wireless ISR

Highlights:

- **Feature richness of IOS, extensive 3G/4G Management Capabilities**
- **3G/4G & WLAN, Dual SIM, SMS/GPS Support, Sync/Async, FE LAN**
- **Smaller footprint, Industrial Grade Components**
- **Extended Temperature: *-20C up to + 60C***
- **Environmental Protection: *95% Humidity, IP 41 for Splash Water and Pollution 3 (Dust)***
- **Shock and Vibe: *MIL-STD-810, EN-50155, SAEJ1455, & ENG3396***
- **Mounting Options: *Din-Rail, Floor, Wall Mount***



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Introducing the Cisco 819 Series
Broadband Wireless ISR

	819	819H	819W	819WH
3G/4G WAN	EVDO or HSPA+	EVDO or HSPA+	EVDO or HSPA+	EVDO or HSPA+
3G Antenna	External/Diversity	External/Diversity	Embedded & External/Diversity	Embedded & External/Diversity
WLAN (a/b/g/n)	no	no	2.4 or 5.0 GHz	2.4 or 5.0 GHz
Unified Support (Licensed Option)	no	no	yes	yes
Wifi Antenna	no	no	External	External
Onboard WAN Ports	1 GE	1 GE	1 GE	1 GE
12-in-1 Serial (Licensed Option for Sync WAN)	1	1	1	1
Onboard LAN Ports	4 FE	4 FE	4 FE	4 FE
GPS / SMS	yes	yes	yes	yes
IOS (Universal Image)	15.2(1)T	15.2(1)T	TBD	TBD
Reset to Safe/Golden IOS & Config	yes	yes	yes	yes
Hardened (-20/60C / IP41)	no	yes	no	yes
Power Supply	External	External	External	External
Dimensions (HxDxW)	178x173x44 mm	178x173x44 mm	178x173x44 mm	178x173x44 mm
Estimated Availability	Q3CY2011	Q3CY2011	Q1CY2012	Q1CY2012
Estimated Price (US$)	1500	2500	TBD	TBD

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ISR / ISR G2 Product Roadmap

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ISR G2 ADSL / VDSL Roadmap

Q2CY11

ADSL/VDSL Enhancements

887VA with 3G
- Annex-A
- Annex-M

Q3CY11

887VA
- with WLAN
- with 3G & WLAN

886VA
with WLAN

Q4CY11

886VA with 3G
- Annex-B

EHWIC-VA
- Annex -J
- Compete software feature support

GPON /EPON
support on the ISRG2

Q1CY12+

Multimode 4 pair G.SHDSL
EFM and ATM mode

8 pair G.SHDSL EFM
EFM mode HWIC

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Multi-Mode ADSL/VDSL
CISCO880VA / EHWIC-VA

- New multi-mode VDSL2 and ADSL2/2+ platforms and EHWICs
- Maximum flexibility for DSL WAN deployments
- Broadcom chipset
- Annex A , B and M Options
- EHWICs are supported on the ISR G2
- DSL Firmware and IOS Release can be certified independently

EHWIC-VA-DSL-A	VDSL2/ADSL2+ over POTS
EHWIC-VA-DSL-B	VDSL2/ADSL2+ over ISDN
EHWIC-VA-DSL-M	VDSL2/ADSL2+ Annex M
CISCO886VA-K9	Cisco 886VA router with VDSL2/ADSL2+ over ISDN
CISCO886VA-SEC-K9	Cisco 886VA Secure router with VDSL2/ADSL2+ over ISDN
CISCO887VA-K9	Cisco 887VA router with VDSL2/ADSL2+ over POTS
CISCO887VA-SEC-K9	Cisco 887VA Secure router with VDSL2/ADSL2+ over POTS
CISCO887VA-M-K9	Cisco 887VA Annex M router

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4 and 8 Pair G.SHDSL/EFM Planned for Aug/11

Supported Platforms

- Modular ISR G2
- Fixed platform C888EA

Features

- Multi-Mode G.SHDSL / EFM (4 Pair Only)
- EFM bonding up to 8-pair G.bis (EHWIC Only)
- Support Annex A, B, F and G
- Metro-E Features

Supported DSLAMs

- Hatteras, Actelis, Adtran, Huawei, Alcatel
- ECI HilFocus, Lucent Stinger, ZTE, Ericsson, Siemens

SP Challengers: T1/E1 Transition for more Bandwidth @ Reduced OPEX

G.SHDSL/ATM to EFM Transition to Enable Ethernet Services

Potential Adjacencies:

- **Serial to EFM Transition**
- **Backhaul for Vertical Applications**

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Expanding Fiber Portfolio

892F with pluggable SFP
Available Now

Low-Cost Routed Port HWIC
1 Port, Combo SFP/CU
FCS: April-May 2011

GPON/EPON SFP
FCS: Fall 2011

GLC-LH-SM	GLC-LH-SM: 1000BASE-LX/LH SFP transceiver module for MMF and SMF, 1300-nm wavelength
GLC-SX-MM	GLC-SX-MM: 1000BASE-SX SFP transceiver module for MMF, 850-nm wavelength
GLC-ZX-SM	GLC-ZX-SM: 1000BASE-ZX SFP transceiver module for SMF, 1550-nm wavelength
GLC-BX-D	GLC-BX-D: 1000BASE-BX10-D downstream bidirectional single fiber; with DOM
GLC-BX-U	GLC-BX-U: 1000BASE-BX10-U upstream bidirectional single fiber; with DOM
GLC-GE-100FX	GLC-GE-100FX: 100FX SFP on GE SFP ports for DSBU switches
GLC-FE-100BX-U	GLC-FE-100BX-U: 100BASE-BX10-U SFP for Fast Ethernet SFP Ports
GLC-FE-100BX-D	GLC-FE-100BX-D: 100BASE-BX10-D SFP for Fast Ethernet SFP Ports

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Roadmap for extending "*Carrier Ethernet Features*" to *EFM, VDSL & Fiber*

- UDLD
- Resilient Ethernet Protocol
- MST 802.1s / RSTP 802.1w
- Etherchannel 802.1.ad
- DHCP Snooping
- Dynamic ARP Inspection
- IP Source Guard
- 802.1x
- QinQ with L2PT
- 1:1 VLAN Translation
- 2:1 VLAN Translation
- Pseudo-wire redundancy
- CFM to EFM Interworking
- Time Domain Reflectometry (TDR on copper ports)
- Disable per VLAN MAC learning

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NG 860: Low-End

Growth Strategy & Win-Back

Planned for November 2011

- Power of IOS with integrated rich features in IOS
  - Leverage security services portfolio to deliver a superlative product
  - Distinguish service offerings as appropriate for market and cost reasons
- Evolve the selling model
  - Minimize cost to trial and make adding services simple
  - Enable Service Providers to offer Managed Services in order to help them address the entire TAM
- Differentiate
  - Support for Cloud based services – kick start with ScanSafe
  - Combine the capability and reach of SP with product offering from Cisco
- Models with:
  - ADSL/VDSL & Ethernet with WLAN (2nd Phase)

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Next Gen 860 features comparison

	860 series (shipping today)	Next Gen 860	CVO (880 / 890) (Adv. IP Feature set)
WAN diversity	FE, ADSLoPOTS	GE, FE, VDSL2/ADSLoPOTS, VDSL2/ADSLoISDN	GE, FE, SFP, VDSL2/ADSLoPOTS, VDSL2/ADSLoISDN, G.SHDSL, 3G,
VPN technology	Easy VPN, 5 VPN tunnels	Easy VPN, 10 VPN tunnels	Easy VPN, DMVPN, GETVPN, VRF support, 20 VPN tunnels
Threat defense	IOS FW only	IOS FW only, ScanSafe	IOS FW, IPS, ScanSafe, Content Filtering
QoS	No	Yes	Yes
802.1x	No	Yes	Yes
Routing	RIP v1/v2 only	RIP v1/v2 only, BGP	RIP v1/v2, OSPF, EIGRP, BGP
WAAS Express	No	No	Yes
PoE	No	1-port	Up to 4-ports
Performance	4 Mbps	10 Mbps	>15 Mbps
Management	CCP	Enterprise management tools	Enterprise management tools
High Availability	No	No	Backup WAN, active-active failover
Form Factor	Not home user friendly	Home user friendly, desktop, fanless	Small branch friendly
Deployment Scenario		Home user/Teleworker	Home user/Teleworker/small Branch / Retail

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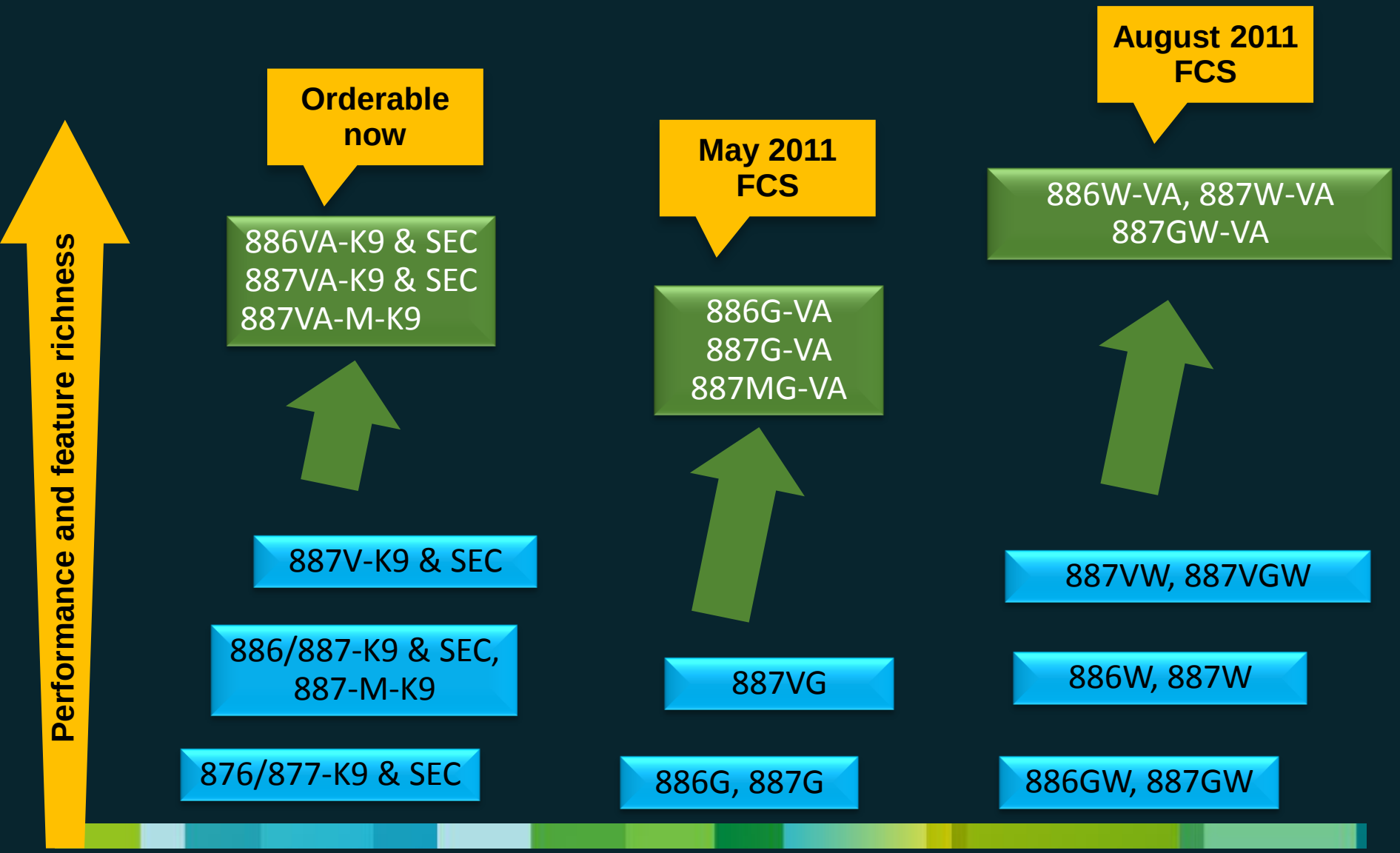
Recommended Migration Paths – 87x / 88x



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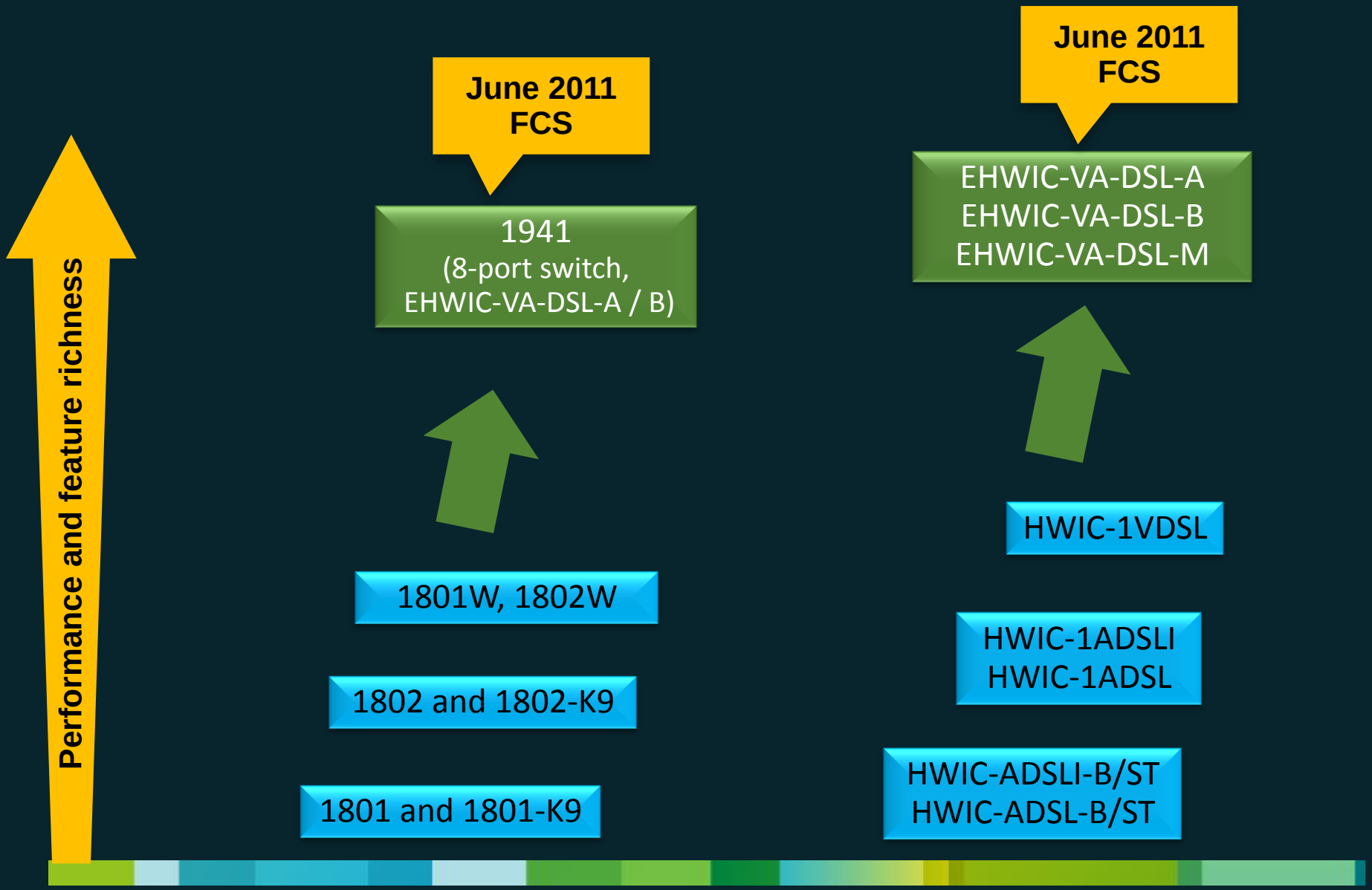
Recommended Migration Paths -180x / HWIC



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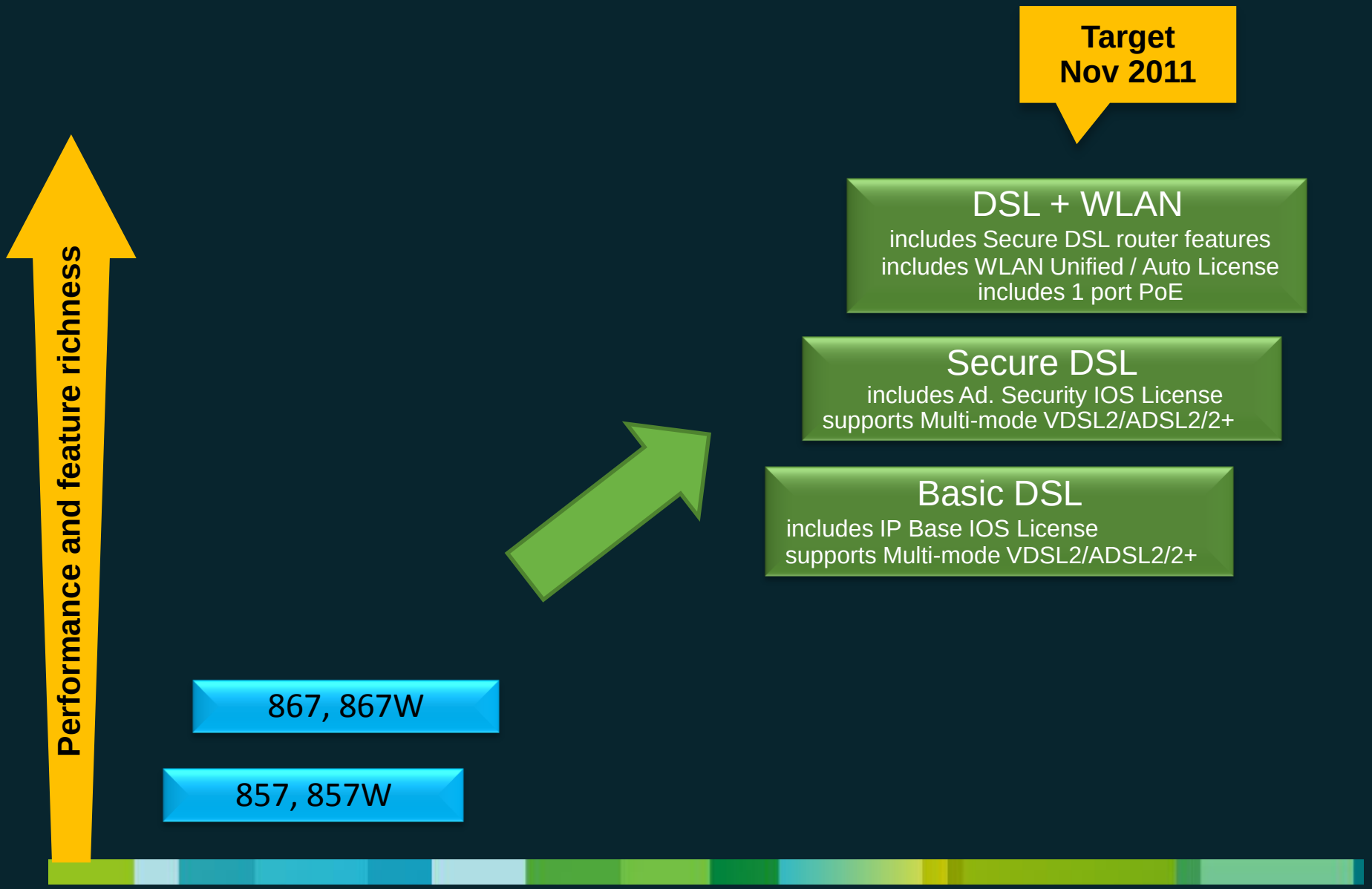
Recommended Migration Paths – 85x / 86x



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Cisco 1861E Integrated Services Router

Cisco 1861E Integrated Services Router is an ideal platform for delivering IP communications in enterprise branch offices, commercial offices, and small and medium-sized business (SMB) offices. With the integration of voice gateway, call processing, voicemail, Automated-Attendant, TimeCardView (TCV), conferencing, transcoding, and security capabilities, the Cisco 1861E Integrated Services Router delivers a comprehensive unified communications solution.

Key features of Cisco 1861E Integrated Services Router include:

- **128 MB Flash, 512 MB DRAM**
- Upgrade option from 8 user to 16 user license
- Integrated Cisco Unified Communications Manager Express or Cisco Unified Survivable Remote Site Telephony (SRST) for call processing
- Optional Cisco Unity® Express for voice messaging and Automated Attendant, TimeCardView
- Eight Integrated LAN switching ports with Power over Ethernet (PoE)—expandable through Cisco Catalyst® Switches
- Optional support for a range of High-Speed WAN interface cards (HWICs)
- Optional security with firewall, VPN, Secure Sockets Layer (SSL), and intrusion prevention system (IPS) capabilities

Part Number	Description
C1861E-SRST-F/K9	1861, 8-user SRST or CME, 4FXS, 4FXO, 8xPOE, SP Svcs, HWIC slot , 512 MB DRAM
C1861E-SRST-B/K9	1861, 8-user SRST or CME, 4FXS, 2BRI, 8xPOE, SP Svcs, HWIC slot, 512 MB DRAM
C1861E-SRST-C-F/K9	1861, 8-user SRST or CME, CUE, 4FXS, 4FXO, 8xPOE, SP Svcs, HWIC slot , 512 MB DRAM
C1861E-SRST-C-B/K9	1861, 8-user SRST or CME, CUE, 4FXS, 2BRI, 8xPOE, SP Svcs, HWIC slot, 512 MB DRAM
C1861E-UC-4FXO-K9	1861, 8-user CME, CUE, Phone License, 4FXS, 4FXO, 8xPOE, HWIC slot , 512 MB DRAM
C1861E-UC-2BRI-K9	1861, 8-user CME, CUE, Phone License, 4FXS, 2BRI, 8xPOE, HWIC slot, 512 MB DRAM

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Cisco 1861E x 1861 Product Comparison

	Cisco 1861	Cisco 1861E
Target Business	Unified Communication platform for 8 to 15 users	Unified Communication platform for 8 to 15 users
DRAM Memory	256MB Cisco IOS Software 512MB Voice Messaging	512MB Cisco IOS Software **512MB** Voice Messaging
Flash Memory	128MB Cisco IOS Software 1GB Compact Flash Voice Messaging	128MB Cisco IOS Software 1GB Compact Flash Voice Messaging
UC Capabilities	CME, SRST, CUE, Voice Gateway	CME, SRST, CUE, Voice Gateway
Switch Ports	8 FE switch ports with POE	8 FE switch ports with POE
Integrated WLAN	Supported with C1861W models	**Not Supported**
HWIC Slot	1 Slot –for specified WAN interfaces*	1 Slot –for specified WAN interfaces*

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ISR G2 IOS

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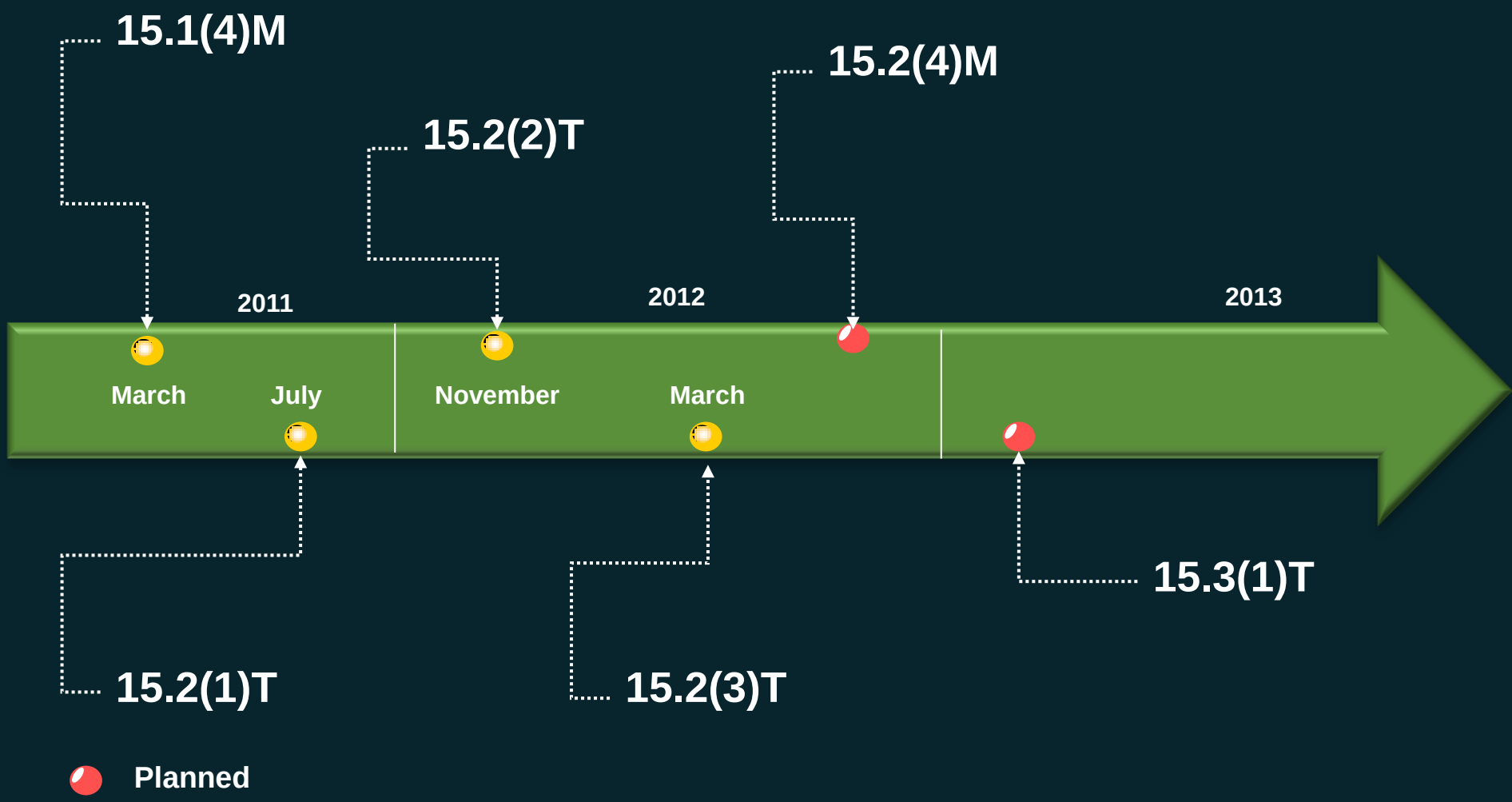
ISR ISR G2 IOS FCS schedule



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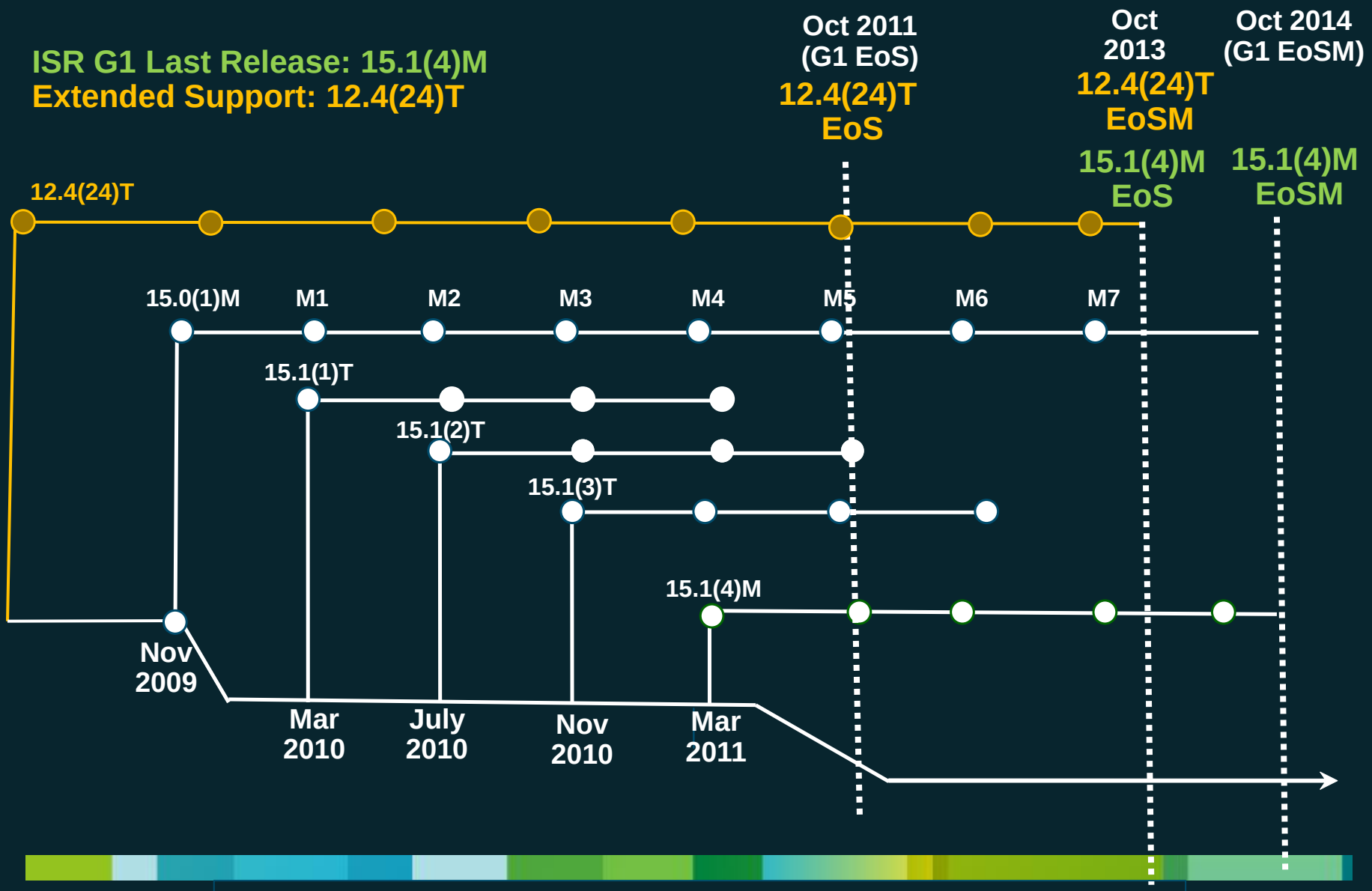
IOS Release View for ISR EoS

ISR G1 Last Release: 15.1(4)M
Extended Support: 12.4(24)T



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Cisco IOS Milestones
Text version

Release	FCS	EoS Announce	End of Sale	End of Software Maintenance	Total Life
12.4(24)T	Feb 2009	Oct 2010	Oct 2011	Oct 2012 (typical 1 year to EoSM)	~3.5 years (42 months)
15.1(4)M	Mar 2011	Oct 2012	Oct 2013	Oct 2014 (coincides with EoSM of platform)	~3.5 years (42 months)

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Key ISR G1 End-of-Sale Dates

Date	Messaging
Nov 1, 2010	External EoS Announcement
Nov 1, 2011	ISR G1 End of Sale
Nov 1, 2014	End of Software Maintenance (15.1(4)M)
Nov 1, 2016	ISR G1 End of Support

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Existing IPv6 Feature Support on ISRs

Security

- IPv6 std, extended, reflexive & enhanced extended ACL
- IPsec AH parsing
- IPv6 IPsec – OSPFv3 authentication, site-to-site tunnel, DMVPN
- IPv6 Firewall (ZBF)

Integration

- Configured & Automatic Tunnels
- (RFC 2893)
- 6to4 (RFC 3056 & 3068)
- IPv6 over GRE/IPv4 (Pr. SW)
- IPv6 over MPLS (6PE)
- IPv6 VPN over MPLS (6VPE)
- ISATAP
- IP over IPv6 Tunnels, DMVPN

Routing

- RIPng, OSPFv3 graceful restart, fast conv
- IS-IS & MT IS-IS for IPv6
- EIGRP for IPv6
- MP-BGP IPv6 Unicast
- MP-BGP IPv6 Multicast
- Policy Based Routing

Core

- IPv6 (RFC 2460)
- ICMPv6 (RFC 2463)
- Secure Neighbor Discovery (RFC 2461)
- Stateless Auto-Configuration
- Anycast
- CEFv6/dCEFv6
- uRPF Strict & Loose Mode
- CEFv6 Switched Tunnels
- HSRP & GLBP for IPv6
- Default Router Selection

IPv6 QoS (MQC)

Applications & Mgmt

- Telnet, TFTP, DNS resolver, HTTP(s), Ping, Traceroute, SSH, NTPv4, SLA
- Cisco IP & IP-Forwarding MIBs
- Flexible Netflow for IPv6
- SNMP over IPv6
- Syslog over IPv6
- CNS Agents, Config logger, Netconf, SOAP, TCL

Broadband Access

- Cisco VSA AAA
- Radius AAA (RFC 3162)
- PPPoA, PPPoE, RBE and ATM 1483 encapsulations
- DHCPv6 Prefix Delegation (RFC3633), DHCPv6 Relay
- Individual AddressDHCP (RFC 3315)
- Generic Prefix

Multicast

- MLDv1, v2, Access Group
- PIMv2 SM, SSM, Bi-Dir
- PIM Embedded RP
- IPv6 MC over IPv4 tunnels
- Scope Boundaries
- Static mRoutes
- Group range
- BSR,

Mobile IPv6

MIPv6 Home Agent

Lite Authentication

NEMO

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IPv6 Feature Roadmap for ISRs

CCO: **March 2011** — **July 2011**

15.1(4)M

- EIGRPv6 CLI update
- EIGRPv6 VRF aware
- IPv6 Multicast VRF Lite
- USGV6 Compliance – IOS VPN
  - IPv6 IPSec - SVTI
  - IPv6 IKEv1
  - IPv6 IPSec - crypto map
  - IPv6 IKEv2
  - IPv6 Manual key support
  - Tunnel protection for IPv6 transport

15.2(1)T

- mGRE over IPv6 Transport
- IPv6 Support for DVTI and Reverse Route Injection
- PKI Application Support for IPv6 networks
- DMVPN Application Support for IPv6 networks
- T.38 fax support with IPv6
- RTCP voice pass-through with IPv6
- CUBE Supplementary services support with IPv6
- OSPFv3 MANET
- OSPFv3 Multi Address Family Support (RFC 5838)
- AAA IPv6 transport
- NBAR2 IPv6 Support

Disclaimer: ***Many of the products and features described herein remain in varying stages of development and will be offered on a when-and-if-available basis. This roadmap is subject to change at the sole discretion of Cisco, and Cisco will have no liability for delay in the delivery or failure to deliver any of the products or features set forth in this document.***

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IOS Software Feature Roadmap for ISR

CCO: Mar 11 → **Jul 11** → **Nov 11** → **Future**

15.1(4)M

IPv6
- IPv6 Multicast VRF Lite

IP Routing
- LISP Locator / ID Separation Protocol
- OSPF – Demand Circuit Disable
- EIGRP IPv6 VRF Lite

Multicast
- MVPN – Data MDT Enhancements

Identity & Policy
- Radius Statistics via SNMP

Security
- USGV6 Compliance – IKE v2 & IPv6 support
- Handle IPSec TFC traffic (RFC4303)
- USB Enable/Disable with CLI

UC
- Video escalation/de-escalation
- SIP Interworking
- RTP Loopback

15.2(1)T

IPv6
- OSPFv3 MANET
- OSPFv3 Multi Address Family Support (RFC 5838)
- AAA IPv6 transport
- NBAR2 IPv6 Support

Routing
- Pfr aware RSVP
- EIGRP/SAF HMAC-SHA-256 Authentication

Security
- ScanSafe IOS Connector
- Reventon AIM VPN Module Support
- IPv 6 DVTI/RRI
- DMVPN over IPv6
- PKI IPv6 support
- IKEv2 support for AnyConnect

UC
- Media forking / Call recording with ORA
- T.38 fax support with IPv6
- RTCP voice pass-through with IPv6

15.2(2)T

PfR:
- PfR Simplification: NetFlow v9 Export for Data & Events
- PfR Simplification: MIB Phase1

EIGRP:
- Wide Metrics (IPv4/IPv6)

BGP:
- BGP PIC Edge (IPv4/IPv6)
- BGP Best External (IPv4/IPv6)
- BGP IPv6 BFD

IP Multicast:
- Live-Live
- MoFRR
- IPv6 PIM Anycast RP
- Multicast RSVP/CAC

Embedded Management
- Embedded Event Mgr (EEM) 4.0

Medianet
- Video Monitoring Ph 2
- Video Monitoring MIB
- Video Monitoring MIB Support

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ISR UC&C

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New Products/Features At a Glance

Category	Feature	15.1(2)T	15.1(3)T	15.1(4)M
New Interface Cards	Introduce next generation VWIC – VWIC3 1 & 2 port cards: orderability Oct 2010 VWIC3-1MFT-T1/E1, VWIC3-1MFT-G703 VWIC3-2MFT-T1/E1, VWIC3-2MFT-G703	Yes	Yes	Yes
	VWIC3-4MFT-T1/E1		Yes	Yes
Existing Interface Cards	Voice support on HWIC-1CE1T1-PRI, HWIC-2CE1T1-PRI	Yes	Yes	Yes
Analog FXS Gateways	Secure SCCP Signaling (TLS) with CUCM and Secure Media (SRTP)		Yes	Yes
	Enhancements to Supplementary Services – - Configurable cadence- call-waiting tone - Configurable MWI - Conference Barge - Single Number Reach (SNR)		Yes	Yes
	Serviceability Enhancement		Yes	Yes
	Media Renegotiation		Yes	Yes
MGCP & SCCP Gateways	Local Session Controller (LSC) Certification (UCR2008) - V.150.1 Minimum Essential Requirements modem-relay support - SSE based T.38 Ver3 support on MGCP GW			Yes

New VWIC3 Cards

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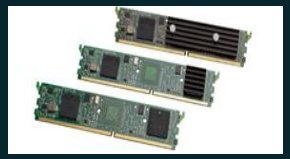
SRTG UC Video Roadmap

	FY10 (15M)	1H FY11 15.1(3)T	2H FY11 15.1(4)M, 15.2(1)T
Applica-tions	▪ UCME Video integration ▪ Video Surveillance		▪ **Video Readiness** Ad-hoc Video Conf Bridge & P2P xcoding ▪ CME (9.0) support with RT video phones
Infra-structure	▪ ISDN Video GW ▪ RSVP Agent ▪ B2B Telepresence with CUBE	▪ IOS passive video monitoring & CAC ▪ IOS mediatrace ▪ Switch Auto Port	▪ **Medianet 2.3:** RSVP integration with pfR, Policy; Metadata ▪ Video IPSLA ▪ RTCP passthrough with MTP
Hardware	 PVDM3s		PVDM3-HD 1080p enabled
Management	▪ CCP ▪ QPM for Qos Config & Monitoring	▪ IOS MIB Enhancements for Video Stats	▪ CCP Enhancements ▪ emMS with video monitoring on ISRs ▪ New IOS Video MIB

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IOS Security

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Cisco IOS FW Roadmap

CY2010 IOS12.4(24)T, 15.0(1)Mx, 15.1(1)T and 15.1(2)T	CY2011
▪ Cisco IOS Zone Based Firewall Phase 2 (Ironman) ▪ - TCP Out of Order Packet Support (April/10) ▪ - Enhancement of Debugging /show commands (April/10) ▪ - Manageability (Simplification of CLI) (April/10) ▪ - ZBFW MIB Support (April/10) ▪ - SCCP 17 Video Support (July/10) ▪ - ZBFW IPv6 Support (July/10)	▪ MS-RPC Traffic Inspection support (Mar/11) ▪ ScanSafe w/ISR Connector Functionality (July/11) Phase 1 ▪ ScanSafe w/ISR Connector Functionality (Nov/11) Phase 2 ▪ ZBFW ID FW/TrustSec Support phase 1 (Nov/11) ▪ ZBFW High Availability (Active/Active w/Asymmetric Route) (Phase 1/Nov/11) ▪ IPS Performance and signature efficiency improvements (Nov/11) ▪ Reduced false negatives in IPS (Nov/11)

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Cisco IOS VPN Roadmap

CY2010 IOS12.4(24)T, 15.0(1)Mx, 15.1(1)T and 15.1(2)T	CY2011
▪ GETVPN Troubleshooting Enhancements ▪ GETVPN 5K GM scale with PKI ▪ IKEv2 site-to-site ▪ IKEv2 Remote Access Win Client ▪ Suite B Ph 1 Software only ▪ DMVPN Tunnel state control on the spoke ▪ ASR Release 5-7 DMVPN, GET VPN VRF Lite	▪ GETVPN VRF-Aware GDOI on GM ▪ DMVPN Tunnel Health and recovery ▪ DMVPN FQDN for Hubs ▪ SSLVPN Client Authentication using certificate

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Additional Resources

You can find additional information about the topics and products covered in this session at the following links:

- **Borderless Networks for partners**
  http://www.cisco.com/web/partners/sell/technology/borderless/index.html
- **Design Zone for Borderless Networks**
  http://www.cisco.com/en/US/partner/netsol/ns1063/networking_solutions_program_home.html
- **Smart Business Architecture (SBA)**
  http://www.cisco.com/go/sba
- **Datasheets in Spanish**
  http://www.cisco.com/web/LA/productos/routers/int_ser.html#~feat-prod
- **Video – Office in a box**
  http://www.youtube.com/user/ciscoCIN#p/c/10/Cwe-KokXEo4
- **Videos in youtube**
  http://www.youtube.com/user/cisco or #ciscovid

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Thank you
Muchas Gracias
Obrigado